September 2015

Sharing Resources Fairly: The evolution of Kenya's revenue sharing formula, 2012-2015

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IBP Kenya[1]

1. The decision

One of the most important policy changes ushered in by Kenya's 2010 constitution was an overhaul of the way in which resources are shared across the country. The constitution took this power away from the executive and created new bodies, including the Commission on Revenue Allocation and the Senate, to lead a more transparent and objective process of deciding how to share resources. According to Article 216(1) of the Constitution, the Commission on Revenue Allocation is mandated to make recommendations concerning the basis for the equitable sharing of revenue raised by the National Government between the national and county governments, and among the county governments. Article 216(2) further mandates the Commission to make recommendations on other matters relating to the financing of, and financial management by, county governments and to encourage fiscal responsibility.[2] In 2012, the CRA submitted its first recommendation on revenue sharing to Parliament. That recommendation, which was eventually revised and adopted by Parliament, introduced a new formula that fundamentally altered the distribution of resources in Kenya.

The constitution in Article 217 (1) requires a revision to the way we share revenues across the 47 counties every five years. However, for the first formula to guide revenue sharing in 2013 (the first year of devolution), the time period was shortened to three years.[3] The decision about how to share revenues across the counties begins with a recommendation by the Commission on Revenue Allocation. This is forwarded to Parliament, which makes the final determination. The parliamentary process begins in the Senate, which can accept or amend the CRA proposal. Once they have approved it, it moves to the National Assembly, which can only amend it with a supermajority. If they do amend it, it must still go back to the Senate for review or mediation.

Taking all of this together, the Senate is the principal decision-maker in our case. And what is the decision? How to share resources fairly given imperfect data, and competing interests and visions of equity.

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[2] *The Constitution of Kenya*, 2010 (Nairobi: Government Printer).

[3] Ibid.

2. Historical Background: constitutional reform in Kenya

The current constitution of Kenya is the result of a referendum in 2010. Prior to that, Kenya was still operating based on its independence constitution. However, this constitution had been amended 38 times by the turn of the century, such that that the values and orientation of the pre-2010 constitution differed considerably from the original independence constitution.[4]

The independence constitution resulted from negotiations among various Kenyan political parties and the British government. The system of parliamentary democracy in the independence constitution reflected the classic British Westminster model separating the head of state from the head of government. The head of state had a largely ceremonial role although he or she could play an important role in forming and dismissing the government and dissolving the legislature. The head of state appointed the head of government called the Prime Minister. Parliament was made up of two Houses: the House of Representatives which represented the national constituencies, and the Senate which represented the regions. The independence constitution was not the result of broad consensus within Kenya, but rather was the result of elite negotiations between a small group of Kenyans at Lancaster House and the British government. It was therefore not "owned" by ordinary Kenyans in the way that a constitution developed through a convention or voted on through a popular referendum might be.

Kenya's independence constitution, in a similar way to the 2010 Constitution, provided for a relatively decentralised structure of government which gave autonomy to the regions and tended to limit central government power. The rationale of regionalism was that it was not enough to be protected from tyrannical rule but it was also vital to be able to participate in the processes of government.[5] Regionalism was aimed at making such participation possible even by the minority tribes. In each of the seven regions there was a regional assembly with elected members. The regional boundaries could not be altered unilaterally by the central legislature, and such alteration required the consent of the regions affected by the changes. Regions enjoyed certain taxation and financial powers. At independence, Kenya was therefore a constitutionally devolved state with significant power devolved to the regions.[6]

The regionalism in the 1963 independence constitution was dismantled in the period between 1963 and 1965.[7] The first amendment in 1964 created the republic of Kenya with a presidential government. Nearly all provisions for shared powers between the regional and central government, such as those relating to agricultural and veterinary matters and aspects of educational standards, were removed. In addition, regional taxation powers were revised.[8] The provisions permitting maintenance of regional contingency forces for security were deleted by the first amendment of 1964. Finally, the regional powers concerning the establishment and supervision of local authorities were transferred to Parliament. With the second

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[4] Constitution of Kenya Review Commission, *The Final Report of the Constitution of Kenya Review Commission* (Nairobi: CKRC, 2005) pp. 24-37.

[5] Y.P. Ghai and J.P.W.B. McAuslan, *Public Law and Political Change in Kenya: A Study of the Legal Framework of the Government from the Colonial Times to the Present* (Nairobi: Oxford University Press, 1970) pp. 196-219.

[6] Constitution of Kenya Review Commission, *The Final Report of the Constitution of Kenya Review Commission*, op.cit, pp. 228-233.

[7] H. W. O. Okoth-Ogendo, "The Politics of Constitutional Change in Kenya since Independence, 1963-69", *African Affairs*, Vol. 71, No. 282 (Jan. 1972), pp. 9-34.

[8] G. Muigai, *Constitutional Amendments and the Constitutional Amendment Process in Kenya, 1964-1997: A Study in the Politics of the Constitution*, Unpublished Ph.D. thesis, September 2001, pp. 116-118.

amendment, regional presidents were re-designated as simply chairmen.[9] The power to alter regional boundaries, which was formerly vested in regional assemblies, was transferred to Parliament.[10] In 1968, the regional institutions, now effectively bereft of all their powers, were finally abolished. The Senate was also merged with the House of Representatives to establish a unicameral house.[11]

Within only five years, the post-independence ruling elite in Kenya had amended the constitution to fully re-centralise power. The colonial power map was reconstituted. Presidential powers in Kenya were considerably strengthened during the one party era which lasted from 1969 to 1991.[12] The one party state was formally created by the nineteenth amendment to the constitution in 1982, although it was a reality much earlier. The constitution was thus explicitly reshaped towards the political survival of the ruling party. The president was accorded extensive powers by the constitution without effective checks and balances.[13] It was argued by Kenya's post-independence political elite that since Kenya was a developing state where socio-political institutions were weak, political stability would be enhanced by a powerful president. A fragmented power structure was seen as undermining central planning, financial co-ordination and the formulation of policies on vital matters such as health, education and agriculture.[14]

In addition, a powerful executive was justified by Kenya's ruling elite on the basis of the need to unify diverse communities within a nationalist framework. Constitutional amendments to centralise power were also partly justified on the grounds that they would bring the constitution more in line with African values.[15] It was argued that in the traditional African method of resolving controversies, each issue should be considered on its own merits unencumbered by factions and divisions, and discussions continued until consensus was reached.

The demands for constitutional review in Kenya in the 1990s can be seen against the background of the end of the Cold War. Pressure for reform was not unique to Kenya and there was a global wave of democratisation and constitutional reform in the wake of the collapse of the Soviet bloc in the late 1980s and the consequent realignment of geopolitical relations in the post-Cold War era. This led to a spread of liberal ideas on state organization, challenging the ideology of the developmental state which was still prevalent among the African elite. A consequence of this post-Cold War trend was to open up the political space for internal dialogue in most African countries, which led rapidly to pressure for constitutional reform. This period is sometimes known as Africa's "second liberation" and pressure for reform was exerted particularly by civil society organisations. The "first liberation" represented the struggle against colonial rule whereas the "second liberation" was a struggle by many Africans against tyrannical rule which had emerged in the post-independence period. They engaged in demonstrations and media campaigns to oblige ruling regimes to embrace liberal constitutional values.

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[9] Act. No. 38 of 1964.
[10] Ibid.
[11] H. W. O. Okoth-Ogendo, "The Politics of Constitutional Change in Kenya since Independence, 1963-69", op.cit.
[12] G. Muigai, "Towards a Theory of Constitutional Amendment", *The East African Journal of Human Rights and Democracy*, Vol. 1, No. 1, September 2003, pp. 1-12.
[13] M. Mwagiru, "The Constitution as a Source of Crisis: A Conflict Analysis of Democracy and Presidential Power in Kenya" in L. Chweya (ed), *Constitutional Politics and the Challenge of Democracy in Kenya* (Nairobi: Sareat, 1999).
[14] H.W.O. Okoth-Ogendo, "Constitutions without Constitutionalism: Reflections on an African Political Paradox", op.cit., pp. 65-82.
[15] Y.P. Ghai, "Constitutions and the Political Order in East Africa", op.cit., pp. 403-434.

In the 1990s, Africa entered a new phase of constitutional development concerned with ensuring that liberal constitutional values were internalised and adhered to. There was a particular focus on the issue of levelling the playing field for political actors and ensuring the independence and impartiality of vital institutions such as the judiciary.

Demands for a review of the Kenyan constitution were made as early as 1990 to the KANU Review Committee headed by the then Vice-President Professor George Saitoti. Civil society organisations at that time sought reforms to end one-party rule, and detention without trial, and to deal with security of tenure for judges, the Attorney-General and the Auditor-General, and to reverse the weakening of the principle of separation of powers. However, no action was taken at this stage since the KANU Review Committee considered these constitutional issues to be out of its mandate. The pressure for constitutional review, however, heightened as the movement for the restoration of a multi-party system gained momentum in the early 1990s.

It was widely expected that the repeal of section 2A of the constitution allowing political pluralism would lay a firm foundation for the democratisation process in Kenya.[16] However, when Kenya reverted to a multi-party system of government in 1992, only those laws dealing with the electoral system were changed.[17] The country continued to operate under structures that favoured an unaccountable and powerful executive. Thus the return to multiparty politics did not itself ensure a deepening of democracy, even though it may have created a possibility for greater political participation in the short-run.[18]

With multi-partyism in 1992, demands emerged for a federal or quasi-federal system of government which has sometimes been referred to as the *Majimbo* debate.[19] This debate in Kenya, which also emerged in various forms around the world in the post-Cold War era, focused on the structure and principles of devolved government, the powers and functions of district government, and the relationship between the national and district governments. Kenya's previous constitution did not provide for any form of devolved government or make any significant reference to the local government system. The only mention of local government was the provision vesting trust lands in the county councils. Devolution's advocates in Kenya and around the world argued that it would improve development outcomes, particularly service delivery, human livelihoods, and governance.

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[16] K. Kibwana and W. Mutunga, "Promoting Democracy in Sub-Saharan Africa: Lessons from Kenya" in K..Kibwana (ed) *Readings in Constitutional Law and Politics in Africa: A Case Study of Kenya* (Nairobi: Claripress, 1998) pp. 98-109.

[17] Kenya Human Rights Commission, "Independence Without Freedom: The Legitimization of Repressive Laws and Practices in Kenya" in K. Kibwana (ed) *Readings in Constitutional Law and Politics in Africa: A_Case Study of Kenya* (Nairobi: Claripress, 1998) pp. 113-162.

[18] G. Muigai, "Legal Constitutional Reforms to Facilitate Multi-Party Democracy: The Case of Kenya" in J. Oloka-Onyango, K. Kibwana and C. Maina Peter, *Law and The Struggle for Democracy in East Africa* (Nairobi: Claripress, 1996) pp. 526-544.

[19] S.K. Akivaga, "Federalism and Unitary Government: What Option for Kenya? in M. Odhiambo et.al (eds) *Informing a Constitutional Moment: Essays on Constitutional Reform in Kenya* (Nairobi: Claripress, 2005) pp. 19-47.

Constitutional review in the early 2000s was an opportunity to rethink the structure of government and many Kenyans expressed views on the issue of devolution of power.[20] Many people, especially in Coast Province and in some parts of Rift Valley Province, recommended *majimbo.* This was linked to a feeling of alienation from central government power and marginalization in access to resources. Some provinces such as North Eastern lagged far behind others in terms of quality of life indicators related to health and education, which contributed to considerable structural violence within Kenyan society. Despite the fact that the principle of devolution was broadly embraced by the Bomas constitutional conferences, its structure and the number of levels of devolved government were subjects of intense debate.[21]

The principles of effective and equitable distribution of financial resources are vital to a country's stability. In most countries the government is the largest employer and its expenditure also accounts for a substantial proportion of economic activity.[22] Without financial resources, government activities cannot run smoothly. However, financial resources also require vigilance since they are prone to abuse. The use and abuse of government financial resources is often at the root of violent conflict.[23] These conflicts derive from the allocation of financial resources on the basis of political loyalties rather than need, the redistribution of public resources from places which generate them to those that are politically favoured, and the plundering of state resources by elites.

The financial provisions in the previous constitution were essentially about ensuring that money was collected and spent by those who had authority to do so, but there was no effort to ensure equitable, effective and efficient financial decisions.[24] Parliament had limited budgetary powers. The constitution prohibited the national assembly from proposing taxation measures, or withdrawal of money from the consolidated fund, except on a recommendation of the president approved by a minister.[25] There were major concerns about the failures of the constitution to address corruption, which were linked to inadequate oversight by both parliament and other bodies, such as the national audit office.

The CKRC draft constitution made detailed recommendation for ways to improve the management of public resources.[26] On budgeting, for example, the CRKC recommended *inter alia* that the budget-making process should allow for participation by all the key stakeholders, taking into account the need for affirmative action for disadvantaged economic groups. The CKRC recommended that the president, on recommendation from an appropriate constitutional commission, should appoint the Controller and Auditor-general subject to ratification by parliament. In addition, the CKRC recommended that the Controller and Auditor General should enjoy security of tenure and that there should be severe consequences entrenched in the constitution for interfering with these offices. On taxation, the CKRC recommended that there should be a clear basis for imposing any form of tax.

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[20] Constitution of Kenya Review Commission, *Source Book for Civic Education: Referendum 2005*, (Nairobi: CKRC, 2005) pp. 83-91.

[21] Constitution of Kenya Review Commission, *The Final Report of the Constitution of Kenya Review Commission*, op.cit. p.403.

[22] Constitution of Kenya Review Commission, *The Final Report of the Constitution of Kenya Review Commission*, op.cit. pp. 293-318.

[23] Ibid.

[24] Ibid.

[25] *The Constitution of Kenya,* Section 48, Revised Edition, 2001 (Nairobi: Government Printer).

[26] Ibid.

A new constitution was finally passed by referendum in 2010. Its passage was fueled by increasing citizen dissatisfaction with government performance, the economy, and the post-2007 election ethnic violence.

3. Critical issues in public finance addressed by the 2010 constitution

Chapter 12 of the 2010 constitution lays out both detailed principles and elaborate procedures for making decisions about public finances.[27] What do these principles and procedures indicate about the intended aims of Kenya's new public finance system? The core values in the new system are reducible to two: public engagement throughout the process and equity in distribution of resources. Article 202 (1) of the 2010 Constitution, for example, makes the equity principle explicit: "Revenue raised nationally shall be shared equitably among national and county governments." These core values are supported by some additional principles, however, which can be discerned from procedural choices. These principles include: choices should be deliberative and not left to any one institution; democratic choice should be partially constrained by detailed technical guidance; decisions should be frequently reviewed and revised.

Chapter 12 opens by reminding us that public finance should be conducted in an open and accountable manner, with ample public participation. There are actually two key moments when participation is explicitly required in the annual budget process: one is when the decision about the division of revenue between national and county governments is made, the other is when Parliament makes its decision about the executive's proposed budget. Funding for counties was singled out as a decision that particularly required broad participation.

The decision about how much money to give counties actually involves two choices. The first is the issue of how much of the total national pot to give to the two levels of government. This is sometimes referred to as the "vertical" share. The second decision is the one that is the focus of this case study: how much should each individual county get of the total that is given to the counties as a whole. This is sometimes referred to as the "horizontal share."

The constitution clarifies that these two decisions must take into account the principle of equity. This is spelled out in Article 203, which mentions several factors that should guide the horizontal share in particular: developmental needs, fiscal capacity, and incentives for counties to optimize their own revenue collection. "Economic disparities" and "affirmative action in respect of disadvantaged areas and groups," are also mentioned. The Equalisation Fund created by Chapter 12 further enshrines the equity principle in the constitution; it channels a small fixed share of annual revenues to marginalized areas in order "to bring the quality of those services [roads, water, electricity and health] in those areas to the level generally enjoyed by the rest of the nation, so far as possible."

In making the decision about how to share resources across the counties, then, the constitution requires policymakers to consider the views of the public and the principle of equity. At the same time, decisions around public finances are intended to be taken by multiple institutions and to be reviewed frequently. For this reason, the Commission on Revenue Allocation is given agenda-setting power in the process, while the final decision is taken by Parliament. Even within Parliament, responsibility is divided between the two houses, with the Senate having the larger role, but the National Assembly given powers to amend the

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[27] This section draws on Jason Lakin, "The Values of Money" in Ghai and Ghai, Editors, *National Values and Principles of the Constitution, Katiba Institute*, 2015.

Senate's proposal with a supermajority. While the decision on the horizontal share is taken every five years (or three at the outset), the Senate can also review it at any time with a supermajority vote. All of this was intended to take financial decisions away from the executive and to make them temporary, reducing the likelihood of permanent losers emerging in financial matters.

More broadly, the constitution relies on a set of non-executive institutions that disperse powers over public finance from the center. For example, decisions about salaries for state officers are made not by National Treasury, but by the Salaries and Remuneration Commission. Decisions about the release of funds for expenditure against budgets are made by the Controller of Budget. By giving new institutions powers to intervene in budget setting and implementation, the constitution has also reduced the significance of any single decision in the process. This multiplication of actors has also increased the need for policymakers to negotiate and influence one another in order to see their agendas advance. The need for constant deliberation and negotiation can be interpreted as a step toward the democratization of public finances in Kenya.

4. Key actors in the revenue sharing decision

Kenya's Parliament operates through a set of powerful committees. These committees generally have agenda-setting power for their respective houses (the National Assembly and the Senate) as a whole, deciding what gets debated on the floor. They can also present proposals that must be voted up or down without amendment, though in practice, proposals are sometimes amended on the floor or in side meetings.

The first formula was proposed in 2012 at a time when Parliament had only a single house. The Senate had not yet been formed. There were no governors in place yet to represent the interests of the counties directly. The first formula decision was therefore taken by the Members of Parliament of the 10th Parliament, in their capacity as representatives of constituencies, not counties. The Parliamentary Budget Office played an important role in providing technical support to MPs on decisions related to public finances. As Lineth Oyugi of CRA stated, "In the previous parliament we dealt with the Parliamentary Budgetary Office and then the Parliamentary Budget Committee. Normally we had a really long standing relationship with the Parliamentary Budget Office who would then buy in and explain to the Budget Committee members. That was the process."

Within Parliament, not all MPs approached the discussion about revenue sharing with equal interest. According to CRA, the MPs who mobilized most effectively to engage with the formula were those from the arid and semi-arid northern parts of the country. They showed up in larger numbers for key meetings hosted by CRA, such as a meeting with MPs in Naivasha to negotiate over the formula, and held press conferences when they were unhappy with CRA decisions.

The second formula was debated in a different institutional environment. Parliament had changed: there were now two houses and the constitution gives the lead role to the newer house, the Senate, in debating and approving the formula. The revenue sharing decision falls within the mandate of the Senate Finance Committee. The Senate Devolution Committee could also play a role, but has so far opted not to. This may be related to the fact that there is overlapping membership between the two committees, so that members of the Devolution Committee can make their views known directly through the Finance Committee.

The role of technical support for Parliament also seems to have changed over time. PBO does not work with the Senate, and the Senate lacked comparable technical assistance from clerks or others. At the same time, PBO's influence over the National Assembly also declined in the 11th Parliament. According to Fatuma Abdulkadir, the Commission Vice Chairperson, "In the current Parliament itself, there is a disconnect between the Budget Office and the Budget Committee. They do not have the attention of the Parliamentary Budget Committee. They used to have that before." Overall, then, the current parliament is not receiving or using technical guidance to the same degree as the tenth parliament.

There has also been a change in attitude over time in Parliament, and growing antipathy between Parliament and governors. Fatuma Abdulkadir, the Commission Vice Chairperson explained "The other thing I have noticed when we went to present this budget to the Parliamentary Committee, there was this very serious negativity from the MPs towards counties." According to Cheserem, "There is a whole negativity in the National Assembly about counties. Anything to give the counties they don't want. The Governors have also not helped themselves much. Humble yourselves and invite your Senator because Article 96 here is very loud on what the purpose of the Senate it. It is written in very simple English. It says the Senate represents the counties and serves to protect the interests of counties and their governments."

Another key actor in the development of the initial formula was the National Treasury, which CRA relied on for most of the data it used. But Treasury was reluctant to work with CRA, according to Cheserem. He argued that "actually our biggest hurdle was the National Treasury. That was our biggest Achilles heel. It has been a problem. It has actually reduced, but the National Treasury took it very negatively. Even in the costing, trying to extract how much it costs to run hospitals, agriculture, etc., the Ministry of Finance was very hostile." The conflict with Treasury was more central during the development of the first formula than the second, as Cheserem indicates.

The Council of Governors (COG), which brings together governors from the 47 counties, had also come into being by the time the new formula was being discussed and they had a direct interest in funding for counties. In preparing its second recommendation, the CRA met with COG for their inputs as well as the Senate. Lineth Oyugi of the CRA has indicated that the CRA and COG have been able to find some common ground. "We have worked very well with the COG. One, it is now easier to address all the Governors. If there is something; we need to dialogue about or to change, or the strikes are going on, we call the Chairman of the COG and we put our concern. If we are issuing a circular or guideline, it is easier to discuss with a committee because they now have committees which take into account interests."

Nevertheless, one of the challenges for the Council of Governors to engage with the revenue sharing formula is that any conceivable change to the formula would create both winners and losers among the membership. This is different from the issue of how much the counties should get as a whole, which is an issue whose resolution benefits or hurts all counties. The COG has been very vocal on the total share of resources for counties, even calling for a referendum to increase county funding. It has been less vocal on the formula. In situations like the formula revision, it can become difficult to agree on major changes without alienating part of the group.

Governor Ahmed Abdullahi from Wajir County also pointed out that governors understood that any changes to the formula would have to be modest. "CRA engaged us. We had a meeting in Kwale. We deliberated. Understandably, it is not easy for CRA to drastically shift the numbers. There is a constitutional requirement for predictability. If CRA does anything to significantly shift, especially in terms of reduction, it can be deemed to act against the constitution. Also, there is not a county that will accept to lose a lot of money. So we deliberated, we haggled, and we came up with a formula that I think brought in a few other issues."

As the Governor suggests, COG did eventually agree with CRA on a set of minor changes to the first formula, which we will see below. CRA then took its recommendations to the Senate at the end of 2014, intended to guide the 2015-16 division of revenue (which should have been decided by March of 2015).

For a decision to be made by the Senate, the Finance Committee tables a report in Parliament which is debated and approved. The Senate Finance Committee reviewed the CRA recommendation and tabled a report endorsing it in February, 2015. However, on February 26, the Senate rejected the Committee's report, leaving the Finance Committee to return to the drawing board and develop a new recommendation. In the meantime, Kenya continues to use the first formula approved in 2012.

5. International perspectives on revenue sharing

The Commission on Revenue Allocation visited several countries to learn from their experiences in revenue sharing as it sought to develop its own formula. According to Lineth Oyugi, Director of Research and Policy of the CRA, "We have looked at the South African model. The Commissioners went there and they studied that example. We have looked at the Egyptian model and the Indian model. We have even looked locally at what is being done in Ghana, Nigeria and even in the Philippines. We looked at different models…. If you look at the parameters we are using, they have actually been used in majority of those countries with varying weights." Micah Cheserem, Chairman of the CRA, added, "We were told clearly when it comes to the formula for sharing revenues: every country has to cook its own formula. Therefore there is no specific country that we took. However population was a constant in all the countries."

Internationally, there are at least three principles that dominate discussions of equity in revenue sharing. These principles are: fiscal need, fiscal capacity and fiscal effort. While not explicitly mentioned as such in the Kenyan constitution, they are implicitly present in Article 203, discussed earlier. The constitution speaks of "developmental needs", fiscal capacity and "incentives" to "optimize" own revenue collection. These are analogous to the three international principles, which we look at in more detail here.

The principle of fiscal need means that subnational units (counties, in the Kenyan case) that have higher costs to provide the same services to their population should get more from the revenue sharing approach. The costs in one unit will be higher than in another due to a variety of factors, such as a larger population, a sicker population (if health care is one of the services), a physically larger or more mountainous terrain (due to additional costs of delivering services in far-flung areas) and so on. Fiscal need is higher when more services must be provided or the cost of providing the same services is higher. Equity normally demands that we provide more to those with higher fiscal need.

The principle of fiscal capacity looks not at needs, but at ability to pay. Some units have larger economies or larger endowments of natural resources. These units are able to pay more of the cost of their own services. Equity demands that when some units can shoulder more of the burden of paying their own costs, we should provide less to them and more to units that are not able to afford a basic level of services from their own resources. One way of thinking about fiscal capacity is to ask how much each unit would collect in own revenue if all units were to apply the same tax system to their economies. This avoids rewarding units that have high tax potential but choose not to collect revenues from their own people (e.g., by having low tax rates).

The third consideration is what is known as fiscal effort. The principle of fiscal effort is often confused with capacity, but they are different. Effort can be high even when capacity is low. Fiscal effort measures the degree to which a unit makes an effort to maximize what it raises in revenues from a given base. So, for example, if a poor county has little fiscal capacity, but manages to increase its revenues over time by 20%, while a rich county with high capacity has stagnant collections, then we would say that the poor county has low capacity, but high effort. Equity requires that we reward effort and punish laziness, so a county that makes more of an effort would not see its share of revenues decrease, even though it has more of its own resources to cater for itself.

Different countries take different approaches to balancing these principles. Some look only at fiscal needs, while others emphasize fiscal capacity. South Africa puts most of the weight of its formula on needs, in part because of the limited revenue raising powers of its provinces. Ethiopia looks at the "fiscal gap," meaning the difference between a measure of how much units need, and their capacity to raise revenue, such that the formula "fills the gap" between these two. In India, more emphasis has been put on fiscal effort than in other countries. India has used a variable called "fiscal discipline" that is effectively a measure of effort: it looks at how much each state is increasing the share of its budget that is funded from its own revenues (rather than national transfers) over time. States that increase the share of their budget funded by their own revenues faster than others are rewarded for their efforts.

Aside from the question of how to weigh different principles, countries must also decide how to measure them with existing data. All revenue sharing formulas use "proxies" to estimate costs, as we rarely have exact information on the drivers of cost differences. Population is often a key variable, because larger populations generally drive costs up. But even population is a proxy: a subnational unit may have a larger population, but if that population is healthier (for example) than a unit with a smaller population, it could be that the smaller population actually has higher needs. Sometimes it is possible to measure a population's size and healthiness (or age, or other factors affecting service need) at the same time and use this as a better proxy than simply population.

South Africa follows this procedure in the case of both health and education. For health, they measure facility visits and calculate a risk of illness index as well based on demographic factors. While facility visits are highly correlated with population, this measure incorporates information about the relative healthiness of the population as well. The risk of illness measure is not directly related to the size of the population and provides further information about the overall healthiness of the province. South Africa's education measure looks at the school-age population enrolled in each province. This is again very closely related to overall population, but more directly measures the need for schooling. It is sensitive to differences in the age profile of different provinces.

Using more sophisticated measures of fiscal need requires data that may or may not be available in many countries. This is also true of fiscal capacity and effort. For example, fiscal capacity measures are usually based on a measure of the size of the subnational economy or the tax base. However, many countries do not collect this information at subnational level. Using actual collections introduces a perverse incentive to under-collect revenues; if you collect less, you will get more from the formula because your capacity will be seen to be low. This is why, when data is available, experts prefer to use a "representative tax system" based on the size of the economy and an average tax. Using this approach, subnational units no longer have an incentive to under-collect, since their share of the formula is not based on actual collections.

These are some of the issues that the Senate has to consider as it searches for an equitable approach to revenue sharing.

6. The starting point: How were resources distributed prior to devolution?

When thinking about how to formulate a fair revenue sharing formula, it is useful to look at where we are coming from. There are data limitations in being able to formulate a full picture of the distribution of resources prior to devolution, but we have at least some information. Appendix A contains a table showing the distribution of resources across the counties for devolved functions in 2012-13, just before devolution. This data required some estimations and is likely not perfect. But it gives us a sense of where we are coming from. What questions does it raise?

In looking at such data, we might ask a few questions. First, what is the difference between the county receiving the most and the county receiving the least? How big is that spread and does that seem reasonable? What might explain those differences? For example, it seems likely that Nairobi receives far more than Lamu because of its larger population. This is in keeping with the principle of fiscal needs. In fact, if we look at the distribution across the counties and compare to population, we can see that it is very highly correlated with population (Appendix B).

Generally, it is a good idea to then look at the per capita distribution to get a sense of what else might be driving differences in expenditure. If population was the only factor, per capita figures would be exactly the same across counties. We can see from the table (Appendix C) that this is not the case, though per capita figures clearly have a smaller spread than overall figures. What would explain such differences in per capita allocations? We of course do not know what caused these differences, because the conditions governing the distribution of resources before 2013 were opaque. That is why Kenya shifted to a new, more transparent process.

But in thinking about its own approach to revenue sharing, the Senate might also consider why in general we would have different per capita allocations to counties. Recall from the earlier discussion that population is a proxy. If we are providing health care services, a sicker population may require more resources than a healthy one. This would cause us to give a higher per capita share to the sicker population. There are also some services for which population is a poor proxy. For example, every county must provide certain basic administrative services, such as paying the governor. These costs do not vary with population; the per capita cost of a fixed salary for the governor is going to be higher in a county with a small population. In general, fixed administrative costs always lead smaller counties to have higher per capita costs.

Some capital costs are also not as closely associated with population as recurrent costs. For example, while the cost of providing education services tends to go up for each additional pupil, the cost of providing water infrastructure is less directly related to population. It costs more to provide water to 1 million people than to 1000 people, but there may be large fixed costs that are necessary to provide water to 200,000 people that may be relatively similar for 250,000 people. Similarly, larger populations need more roads, but each additional resident of a county does not add to the cost of providing road infrastructure the way they add to the cost of providing schooling. Put another way, for every 30 new students, you may need a new teacher, but you do not need a new road.

This discussion is still focused on need and how we measure it, but there are also questions to ask about fiscal capacity and fiscal effort. Does our per capita spread prior to devolution reflect the relative capacity of counties to pay for their own services or the efforts they make to raise their own revenues? Once again, we don't know on what basis the decisions were made prior to devolution. We have seen that there is a strong link with population. But we might expect urban areas to have both higher needs and larger economies and higher fiscal capacity. How would the Senate think about this going forward? Similarly, was effort considered in the pre-devolution era? How should it be incorporated into the new approach to sharing revenues?

7. First revenue sharing formula: design challenges and experience

The first formula is shown in Table 1 below. It has five variables, with population taking nearly half of the total weight. Fiscal Responsibility has never been measured and has in practice been given equally to all counties, meaning that it can be treated as part of the Basic Equal Share for this period (raising that to 27%).

It is worth noting that the first formula was revised after inputs from the public and Parliament. The original proposal actually had a higher weight for population at 60%. This was reduced due to pressure to make the formula more redistributive from both parliamentarians from northern Kenya, and members of the public. As CRA Chairman Cheserem noted, "Members of Parliament (MPs) from arid and semi-arid areas called a press conference to denounce us. They were very strong. 'We can't have population at 60 per cent, it is too high', they said. We told them that this was just for discussion purposes and we were going to go to the ground and get back to them. Subsequently, we reduced to 45 per cent."

Table 1: Kenya's First Revenue Sharing Formula, 2012-15

First Formula Variables	Weights
Population	45%
Basic Equal Share	25%
Poverty	20%
Land Area	8%
Fiscal Responsibility	2%

The first formula achieved substantial redistribution and put revenue sharing on a more transparent and logical footing. However, it also raised a number of issues. First, questions about the data underlying the formula have persisted. This is in part due to unrelated processes, such as the lack of legitimacy of the last census count. It is also related to limited understanding of the data used. Few people understand how poverty enters the formula, for example. While some think that areas with similar poverty rates are meant to get a similar share from the poverty factor, in fact, poverty is based on the share of the population that is poor in the county, so counties with the same rate will not get the same amount if their population sizes differ. A county with more poor people in absolute terms receives more than a smaller county, even if, for example, both counties have 20% poverty rates.[28]

Even accounting for this, data was one of the key challenges highlighted by CRA in its own assessment of the limitations of its work. As the Vice-Chair, Fatuma Abdulkadir, put it "I think one of the things that actually curtailed us in terms of which parameters we used was the data that was available to us." Lack of reliable data on many issues prevented CRA from introducing more sophisticated parameters into the

[28] In fact, there is also a part of the poverty variable that looks at the "depth" of poverty, meaning how far below the poverty line a resident is. Thus, even with the same index and same population, a county whose poor people are farther below the poverty line should receive more than a county whose poor people are close to the poverty line.

first formula. They would also argue that the lack of improvement in data since 2012 continued to constrain their second formula proposal.

The first formula also elicited controversy for its lack of adherence to something known globally as the principle of "holding harmless." This is the notion that no county should be made worse off by the formula than they were before devolution. The idea is that, while we must redistribute to marginalized areas, we should do so in a way that does not reduce access to services in more privileged counties. As some analysts showed in 2013, this could have been done at a relatively small cost, but was not done because it was argued that it was unfair to continue to provide more services in privileged places (see Appendix D).

Holding harmless is normally supported for two reasons. First, it is believed to be more equitable to ensure that no one is hurt in the short-run by changes in distribution. Even in privileged areas, a cut in services is likely to affect poorer residents of those areas, not the rich. Second, it is believed to be politically astute to avoid undermining support for devolution from the better off parts of the country. Opponents argue that holding harmless continues to privilege parts of the country that do not deserve it, and reduces the amount available for redistribution to historically marginalized areas. They normally believe that it is inequitable to continue to provide services to areas that have historically benefited. They do not normally engage directly with the second, political argument for holding harmless, but they might believe that the political demand for immediate redistribution outweighs the potential for backlash from privileged areas.

A related problem is that the first formula put less weight on population and more on the basic equal share than many experts thought advisable and more than is done internationally. The effect of this is that the formula has an anti-urban bias and tends to give more to smaller population counties on a per capita basis than might be justifiable. For a comparison of the weight given to population in Ethiopia and South Africa, see Appendix E. In general, many formulas around the world put a high weight on population by using equal per capita transfers for part of their revenue sharing approaches. Canada uses an equal per capita transfer for a key transfer for health services, while in Mexico, the equal per capita bias of the unconditional transfer to states has increased over time.[29]

There is always going to be a conflict intrinsic to the formula about how we balance the two types of need: a desire for redistribution versus adequate financing for ongoing service costs. The first formula was heavily biased in terms of redistribution and (as evidenced by its bias against population) less concerned with ongoing service needs. CRA itself recognized this in its recommendations for the second formula when it noted that "the first revenue sharing formula was highly redistributive. This was achieved at the expense of service delivery. To ensure counties are able to perform the functions allocated to them, the Commission needs to strike a balance between service delivery and redistribution objectives in the second revenue sharing formula."[30]

Finally, the first formula did not put much direct weight on the other two principles of capacity and effort. Instead, it focused almost exclusively on need. This has also been questioned. CRA believed, however, that putting less weight on population was a way of incorporating fiscal capacity into the formula

[29] Thomas Courchene and Alberto Díaz-Cayeros, "Transfers and the Nature of the Mexican Federation," In *Achievements and Challenges of Fiscal Decentralization: Lessons from Mexico*, edited by Giugale and Webb. Washington, D.C.: The World Bank.

[30] Commission on Revenue Allocation, *CRA Recommendation on the Criteria for Sharing Revenue Among Counties for Financial Years 2015/16, 2016/17 and 2017/18*, 10th November 2014, page 19.

indirectly, since higher population areas tend to have higher capacity to collect own revenue. As Oyugi put it, "Also from the high potential counties, they are focusing too much on their equitable share. They have refused to focus on their own potential. When Nairobi complains that they have been marginalized by the formula by getting some Kshs. 12 Billion, Nairobi has a capacity of raising Kshs. 100 Billion."

8. Second formula: debate inside and outside of the Senate

Article 201 of the 2010 Constitution provides for openness, accountability and public participation in financial matters. In accordance with this provision, the Commission issued public notices about the review of the first revenue sharing formula and requested for submission of memoranda on the second formula by various stakeholders. The Commission held consultations on the second formula with county governments, county stakeholders, the public, the academic community, the Council of Governors, the Senate and professional bodies like ICPAK.[31]

The debate over the second formula included claims by many counties that they were not receiving enough from the formula. The issue of the inherited wage bill was raised by a number of counties, particularly the former provincial headquarter counties. Because counties have inherited high staff costs and not been given any way of retrenching these staff, they felt that this was a major cost driver not covered by the formula. In a sense, this problem arose because of the failure to "hold harmless" mentioned in section 7. However, others felt that some of the counties with high wage costs also had higher fiscal capacity and this should have been incorporated into the formula.

According to CRA, small population counties wanted population reduced while large population counties wanted it increased. A similar thing occurred with poverty, with poorer regions calling for more weight for this parameter. Data issues continued to be a challenge and some felt that the formula should have been more data driven, linked to the cost of providing key services like health, etc. as in the case of South Africa.[32] Others, including CRA, argued that reliable data was not available to do this. The public raised concerns about the lack of conditions related to fiscal discipline and proper management of funds, and many people wanted to see the share for fiscal responsibility rise.

Governor Ahmed of Wajir agreed that self-interest was an important driver of perspectives on the formula: He argued: "whichever you adopt, there will be those who argue otherwise depending on their situation. If you come from densely populated county with small area, you will want population up. If you are from a sparsely populated county, with vast land, like mine, you will want the geographical component pushed up. If you come from marginalized areas, given poor access to infrastructure, health, etc., you will want poverty pushed up."

In the end, CRA's proposal was very similar to the first formula adopted in 2012. That proposal is shown below as Table 2. The COG was partly responsible for an agreement that led to the introduction of two new parameters in the formula ("personal emoluments" and "development"), and the reduction of the weight on fiscal discipline. Governors with high inherited wage costs like Nairobi and Mombasa pushed for the formula to include the "personal emoluments" factor, which gives counties with high payroll costs more funding. In exchange, the formula also included a more sophisticated measure of fiscal need than poverty, which is the "development" measure related to access to schooling, electricity, sanitation and so

[31] Commission on Revenue Allocation, *CRA Recommendation on the Criteria for Sharing Revenue among Counties for Financial Years 2015/2016, 2016/2017, 2017/2018*, 10th November 2014, p.2.
[32] See http://internationalbudget.org/wp-content/uploads/CRA-Submission.pdf

on.[33] The balance of these new variables was intended to, and did, slightly reduce the weight of redistribution versus sustaining service delivery in the final output from the formula (for further details, see Appendix F).

Governor Ahmed described the debate within COG at a meeting in Kwale with CRA: "So we deliberated, we haggled, and we came up with a formula that I think brought in a few other issues; it brought in payroll burden. Overall, reductions and gains were reasonable. Some people had to gain and some to lose but overall not crippling anyone…. Debate was heated but civil and mature."

Table 2: CRA Proposed Second Generation Formula

CRA Proposed Second Generation Formula Variables	**Weights**
Population	45%
Basic Equal Share	25%
Poverty	18%
Land Area	8%
Fiscal Responsibility	1%
Personal Emoluments	2%
Development	1%
Changes From First Formula	3% (Reduction in poverty, fiscal responsibility of 3 percentage points; introduction of development and personal emoluments for 3 percentage points)

The Debate in the Senate

What happened on the floor of the Senate? Senators from small population counties (e.g., Elgeyo Marakwet, Tharaka Nithi) felt that the population weight was too large; large population counties (e.g., Meru) felt it was too small.[34] Senators from smaller population and more marginalized areas (e.g., Marsabit) wanted the basic equal share increased (which benefits them at the expense of large population areas). When it came to voting, the proposal was rejected 13 to 11.

Some Senators from both small counties (Elgeyo Marakwet) and large counties (Mombasa) opposed the new formula. However, on average, the counties that rejected the formula tended to have smaller populations and lower inherited wage costs (Appendix G). They also tended to score lower on the "development" factor and the poverty factor.

Nevertheless, self-interest is inadequate to explain the final vote. A number of counties that would have benefited from the new formula did not vote for it (e.g., Mombasa and Kilifi). In fact, the share of those voting for the new formula who would benefit from it was only 2/10 (20%), while those voting against it who would benefit was actually higher (4/13, or 31%).

33 Ibid., Page 30.
34 See "Senate Debates," The Hansard, February 12, 2015, page 19.

It is also notable that, while no member of the Finance Committee voted against their own formula proposal, most of them were not present for the voting. There were five members present who voted for the formula out of 16 members on the committee. Had the full committee been present, the proposal may have passed easily, especially given that 4 out of the 5 members present did not benefit from the new formula, but voted for it anyway in line with their committee recommendation. Three of the committee members not present were also from key counties that would have benefited from the shift to a new formula: Kajiado, Kisumu and Nakuru.

From the floor, various issues were raised about how population was determined, noting that small population counties may serve populations from other counties for which they are not properly compensated in the formula.[35] Senators also suggested more attention be given to sector specific parameters (such as health indicators) that might more accurately estimate fiscal needs than population.[36] There was also a concern raised on the Senate floor that counties that have higher fiscal capacity would receive more from the formula (as opposed to less, as would normally be expected).[37] Some senators suggested that the factor for personal emoluments should be given as a conditional grant to ensure that it did not create perverse incentives for counties to increase hiring.[38]

In the end, it appears that the positions taken by the Senators were more extreme than those taken by the governors of the counties they both represented. One notable aspect of the development of the formula is that the CRA met with the Senate and the governors separately. There was never an attempt to bring all of these institutions together. Governor Ahmed noted that perhaps the failure to organize for a meeting of all key institutions together was part of the reason why the formula did not pass the Senate. "With hindsight, we should have had the Senate in Kwale, in an open discussion, not for legislation. This was a process with CRA. We understood what we agreed was subject to Senate validation. So CRA had progressed this with the Senate independent of COG. The Senate felt that what COG discussed was not binding. Each and every institution feels it should have more authority than the others. There is not much consultation."

**

Having received this proposal from the CRA, and taking into consideration everything discussed so far relating to the principles of revenue sharing, the challenges and criticisms of the first formula, and the data in the appendices, put yourself in the role of the Senate Finance Committee. Would you accept the revisions proposed by CRA? If so, why? If not, what would you do to further revise the first revenue sharing formula?

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[35] Ibid., page 38.
[36] See "Senate Debates," The Hansard, February 18, 2015, page 11.
[37] Ibid., pages 38-39.
[38] Ibid., page 46; See also "Senate Debates," The Hansard, February 17, 2015, page 38.

Appendices

Appendix A: How were resources shared prior to devolution in Kenya?

County	Resources 2012/13 (Ksh)	Relative Share of Total Resources
Baringo	2,819,187,846.67	1.81%
Bomet	2,002,711,340.33	1.28%
Bungoma	3,858,594,697.33	2.47%
Busia	2,885,015,695.00	1.85%
Elgeyo Marakwet	2,157,816,864.33	1.38%
Embu	3,283,676,120.00	2.10%
Garissa	3,238,852,805.67	2.08%
Homa Bay	4,246,447,786.67	2.72%
Isiolo	1,716,332,817.67	1.10%
Kajiado	2,273,882,929.00	1.46%
Kakamega	5,528,373,107.33	3.54%
Kericho	2,921,452,917.00	1.87%
Kiambu	5,918,352,994.33	3.79%
Kilifi	3,376,935,614.00	2.16%
Kirinyaga	2,941,527,604.67	1.89%
Kisii	4,091,397,708.67	2.62%
Kisumu	4,875,893,880.33	3.13%
Kitui	3,597,528,364.67	2.31%
Kwale	2,200,018,913.33	1.41%

Laikipia	2,099,093,763.00	1.35%
Lamu	1,312,442,480.00	0.84%
Machakos	3,972,642,135.67	2.55%
Makueni	3,118,873,376.67	2.00%
Mandera	2,300,232,022.67	1.47%
Marsabit	2,143,319,184.00	1.37%
Meru	4,431,495,705.67	2.84%
Migori	3,291,594,128.33	2.11%
Mombasa	5,063,870,842.00	3.25%
Murang'a	3,885,356,677.00	2.49%
Nairobi	13,786,271,425.00	8.84%
Nakuru	6,014,806,251.67	3.86%
Nandi	2,898,715,903.67	1.86%
Narok	2,347,330,196.00	1.50%
Nyamira	2,152,458,765.00	1.38%
Nyandarua	2,662,343,011.67	1.71%
Nyeri	5,889,822,689.33	3.78%
Samburu	1,497,744,838.00	0.96%
Siaya	3,122,938,534.33	2.00%
Taita Taveta	1,947,117,488.67	1.25%
Tana River	1,859,445,566.00	1.19%
Tharaka Nithi	1,466,013,489.67	0.94%
Trans Nzoia	2,041,682,410.33	1.31%
Turkana	2,191,351,327.33	1.40%
Uasin Gishu	3,074,548,856.67	1.97%
Vihiga	1,954,278,924.00	1.25%
Wajir	2,995,818,697.67	1.92%
West Pokot	2,562,966,562.67	1.64%
Totals	**156,018,575,259.67**	**100%**

Source: Figures from National Treasury, Parliamentary Budget Office and Commission on Revenue Allocation; Column 2 is average across three sources; Author calculations

Appendix B: 2012/13 Distribution of Resources Correlation with Population

County	Resources 2012/13 (Ksh)	2009 Population (Census)	Correlation Resources w/ Pop
Baringo	2,819,187,846.67	555,561	0.89
Bomet	2,002,711,340.33	724,186	
Bungoma	3,858,594,697.33	1,375,063	
Busia	2,885,015,695.00	743,946	
Elgeyo Marakwet	2,157,816,864.33	369,998	

Embu	3,283,676,120.00	516,212	
Garissa	3,238,852,805.67	623,060	
Homa Bay	4,246,447,786.67	963,794	
Isiolo	1,716,332,817.67	143,294	
Kajiado	2,273,882,929.00	687,312	
Kakamega	5,528,373,107.33	1,660,651	
Kericho	2,921,452,917.00	758,339	
Kiambu	5,918,352,994.33	1,623,282	
Kilifi	3,376,935,614.00	1,109,735	
Kirinyaga	2,941,527,604.67	528,054	
Kisii	4,091,397,708.67	1,152,282	
Kisumu	4,875,893,880.33	968,909	
Kitui	3,597,528,364.67	1,012,709	
Kwale	2,200,018,913.33	649,931	
Laikipia	2,099,093,763.00	399,227	
Lamu	1,312,442,480.00	101,539	
Machakos	3,972,642,135.67	1,098,584	
Makueni	3,118,873,376.67	884,527	
Mandera	2,300,232,022.67	1,025,756	
Marsabit	2,143,319,184.00	291,166	
Meru	4,431,495,705.67	1,356,301	
Migori	3,291,594,128.33	917,170	
Mombasa	5,063,870,842.00	939,370	
Murang'a	3,885,356,677.00	942,581	
Nairobi	13,786,271,425.00	3,138,369	
Nakuru	6,014,806,251.67	1,603,325	
Nandi	2,898,715,903.67	752,965	
Narok	2,347,330,196.00	850,920	
Nyamira	2,152,458,765.00	598,252	
Nyandarua	2,662,343,011.67	596,268	
Nyeri	5,889,822,689.33	693,558	
Samburu	1,497,744,838.00	223,947	
Siaya	3,122,938,534.33	842,304	
Taita Taveta	1,947,117,488.67	284,657	
Tana River	1,859,445,566.00	240,075	
Tharaka Nithi	1,466,013,489.67	365,330	
Trans Nzoia	2,041,682,410.33	818,757	
Turkana	2,191,351,327.33	855,399	
Uasin Gishu	3,074,548,856.67	894,179	
Vihiga	1,954,278,924.00	554,622	
Wajir	2,995,818,697.67	661,941	
West Pokot	2,562,966,562.67	512,690	
Totals	**156,018,575,259.67**	**38,610,097**	

Sources: Appendix B, Census 2009 and Author Calculations

Appendix C: Per Capita Resources Prior to Devolution (Ksh)

County	Per Capita Resources 2012/13
Baringo	6,180
Bomet	3,368
Bungoma	3,417
Busia	4,723
Elgeyo Marakwet	7,102
Embu	7,747
Garissa	6,331
Homa Bay	5,366
Isiolo	14,586
Kajiado	4,029
Kakamega	4,054
Kericho	4,692
Kiambu	4,440
Kilifi	3,706
Kirinyaga	6,784
Kisii	4,324
Kisumu	6,128
Kitui	4,326
Kwale	4,122
Laikipia	6,403
Lamu	15,741
Machakos	4,404
Makueni	4,294
Mandera	2,731
Marsabit	8,964
Meru	3,979
Migori	4,371
Mombasa	6,565
Murang'a	5,020
Nairobi	5,350
Nakuru	4,569
Nandi	4,688
Narok	3,359
Nyamira	4,382
Nyandarua	5,438
Nyeri	10,342
Samburu	8,145

Siaya	4,515
Taita Taveta	8,330
Tana River	9,432
Tharaka Nithi	4,887
Trans Nzoia	3,037
Turkana	3,120
Uasin Gishu	4,187
Vihiga	4,291
Wajir	5,512
West Pokot	6,088
Average	**5,693**
Maximum	**15,741**
Minimum	**2,731**
Ratio Max to Min	**5.76**

Appendix D: The Cost of Holding Harmless in 2013/14

The table below shows the funding gap created by the first formula. In other words, these are counties that would have received less from the formula than they needed to maintain the level of services available in 2012/13. What this table shows is that a conditional grant of about Ksh 20 billion would have been enough to eliminate the "holding harmless" problem in 2013/14. This table was originally published in Jason Lakin and John Kinuthia, "Fair Play: Inequality Across Kenya's Counties and What It Means For Revenue Sharing," International Budget Partnership, Budget Brief 18B, 2013.[39]

[39] http://internationalbudget.org/publications/budget-brief-no-18b-fair-play-inequality-across-kenyas-counties-and-what-it-means-for-revenue-sharing/

Table 7: Size of Funding Gap Arising From CRA Formula

County	Financial gap after unconditional allocation of Ksh 167 bln
Nairobi	5,563,561,156
Nyeri	3,362,769,458
Mombasa	1,906,140,805
Kisumu	1,607,577,509
Kirinyaga	1,203,289,668
Embu	1,178,637,152
Kiambu	1,174,656,479
Homa Bay	1,001,303,168
Nakuru	794,587,378
Kericho	550,928,651
Murang'a	438,191,244
Nandi	364,017,640
Baringo	307,969,786
West Pokot	250,038,095
Kakamega	222,494,044
Elgeyo Marakwet	149,356,230
Laikipia	98,603,834
Siaya	78,958,334
Taita Taveta	55,260,534
Lamu	41,499,528
Isiolo	41,458,124
Meru	34,908,561
Total	**20,426,207,379**

Source: Authors' Analysis

The implication of this table is that if Ksh 20 billion was removed from the equitable share and given to these counties as a conditional grant, it would resolve the holding harmless problem. Of course, reducing the equitable share by Ksh 20 billion would reduce the redistribution brought about by using the formula. Note, however that the total amount of resources going to counties in 2012/13, according to Appendix B, was Ksh 156 billion. In 2013/14, the total equitable share was Ksh 190 billion. If Ksh 20 billion had been removed from that, the total for sharing among the counties through the equitable share would have been Ksh 170 billion in the first year of devolution. This means that the entire amount that counties were receiving prior to devolution could have been redistributed according to the formula, and only part of the additional funds made available to counties in 2013/14 would have been used to "hold harmless."

This analysis suggests that setting aside funds for "holding harmless" would not necessarily have undermined the redistributive goals of the formula in the first year. Of course, this does not take into account the political implications of holding harmless, such as creating a sense of entitlement among traditionally favored counties. But it does indicate that, mathematically, it was possible to do redistribution and also hold counties harmless.

Appendix E: Comparing weight of population in South Africa, Ethiopia and Kenya

The table below compares the three countries on three different measures of how closely linked the final outcomes of their formulas are to a measure of population. The first column shows the simple correlation. Because of the large size of the Basic Equal Share in the Kenyan formula, the correlation can be misleading. Therefore, the other two measures look at the overall dispersion of the per capita transfer, and the deviation from a perfectly equal per capita transfer. On all three measures, Kenya's formula has the lowest association with population.

Country	Correlation with Population (Total Allocations)	Dispersion Ratio of Top to Bottom Allocation Per Capita	Deviation from Equal Per Capita Transfer
South Africa	0.917	1.66	17%
Ethiopia	0.999	3.56	11%
Kenya	0.861	5.30	25%

Source: IBP Kenya analysis as part of "Issues and Recommendations Related to the Second Formula for Revenue Sharing Among Counties in Kenya," submitted to CRA in June 2014, available at:

http://internationalbudget.org/wp-content/uploads/CRA-Submission.pdf

Appendix F: The Second Formula

This appendix provides the technical details of the second formula proposal from CRA as proposed in November 2014.

Appendix II: The Second Revenue Sharing Formula

$$CA_i = 0.45PN_i + 0.25ES_i + 0.18PI_i + 0.08LA_i + 0.01FR_i + 0.02PE_i + 0.01DF_i$$

Where:

$CA_i$is revenue allocation of the $\boldsymbol{i}$ th County; $\boldsymbol{PN_i}$ is Population Factor; $\boldsymbol{ES_i}$ is Basic Equal Share Factor; $\boldsymbol{PI_i}$ is Poverty Index; $\boldsymbol{LA_i}$ is Land Area Factor; $\boldsymbol{FR_i}$ is Fiscal Responsibility Factor; $\boldsymbol{PE_i}$is Personnel Emolument Factor; and $\boldsymbol{DF_i}$is Development Factor. The details of the formula are presented in Appendix II

Where,

Population (PN_i)

$$PN_i = \frac{Population\ of\ i^{th} County}{Total\ Population}$$

Basic Equal Share (ES_i)

$$ES_i = \frac{Total\ Equal\ share}{47}$$

Poverty Index (PI_i)

$$PI_i = \frac{Poverty\ Resources\ of\ i^{th} County}{Total\ Poverty\ Resources}$$

Land Area (LA_i)

$$LA_i = \frac{Land\ Area\ (Sq.Kms.) of\ i^{th} County}{Total\ Land\ Area}$$

Fiscal Responsibility (FR_i)

$$\boldsymbol{FR_i} = 0.5 * \frac{1}{47} + 0.5 * N_i f_i / \sum_{i=1}^{47} (N_i f_i)$$

$Where,\ f_i = \left(\frac{x}{y}\right)$

$$x = \left(\frac{County's\ own\ revenue}{County's\ total\ expenditure}\right) i$$

$$y = \frac{\sum_{i=1}^{47}(County's\ own\ revenue)}{\sum_{i=1}^{47}(County's\ Total\ \ expenditure)}$$

$$N_i = 2009\ population\ of\ the\ i^{th} County$$

Personnel Emolument Factor (P_{E_i})

$$\boldsymbol{PE_i} = \frac{Total\ Personnel\ Emoluments\ of\ i^{th} County}{Total\ Personnel\ Emoluments\ of\ all\ counties}$$

Development Factor (DF_i)

$$\boldsymbol{DF_i} = E_i + IF_i + H_i$$

Where

$$E_i = 0.125 \frac{I_i * N_i}{\sum_i (I_i * N_i)} + 0.125 \frac{PE_i * N_i}{\sum_i (PE_i * N_i)}$$

I_i- Illiteracy levels of i^{th} County

SE_i- Proportion of children (3-5 yrs.) not attending pre-primary schools

$$H_i = 0.1667 \frac{IM_i * N_i}{\sum_i (IM_i * N_i)} + 0.1667 \frac{IS_i * N_i}{\sum_i (IS_i * N_i)} + 0.1667 \frac{HD_i * N_i}{\sum_i (HD_i * N_i)}$$

IM_i- Proportion of children (<1 yr.) full immunized of the i^{th} County

IS_i- Proportion of household with un-improved sanitation i^{th} County

HD_i- Proportion of children delivered at home of i^{th} County

$$IF_i = 0.08 \frac{E_i * N_i}{\sum_i (E_i * N_i)} + 0.08 \frac{W_i * N_i}{\sum_i (W_i * N_i)} + 0.045 \left(\frac{URN_i}{\sum_i URN_i} \right) + 0.045 \left(\frac{LA_i / TRN_i}{\sum_i LA_i / \sum_i TRN_i} \right)$$

E_i- Proportion of household with access to electricity of the i^{th} County

W_i- Proportion of household without access to improved water of the i^{th} County

URN_i- Un-paved road network of class D, E, F, G, H, J, K, M, N & P of the i^{th} County

LA_i- Land Area of the i^{th} County

TRN_i- Total Road Network of classes D, E, F, G, H, J, K, M, N & P of the i^{th} County

Source: Commission on Revenue Allocation, "CRA Recommendation on the criteria for sharing revenue among counties for financial year 2015/16, 2016/17 and 2017/18," 10 November 2014.

Appendix G: The Senate Vote: Characteristics of Counties of Senators Voting For and Against the Second Formula

Senator	County	Population Weight of County	Member of Finance Committee?	Personal Emolument Weight of County	Develop-ment Weight of County	Poverty Weight	County Receiving Total Increase Over Old Formula?
Aye Votes							
Kerrow	Mandera	2.66	Y	0.51	3.95	6.12	N
Abdirahman	Wajir	1.71	N	0.68	2.86	3.18	N
Elachi	Nairobi	8.13	Y	8.06	3.39	4.33	Y
Kagwe	Nyeri	1.8	Y	3.86	1.46	0.94	N
Kembi-Gitura	Kirinyaga	1.37	N	1.83	1.06	0.6	Y
Muthama	Machakos	2.85	N	3.06	3.02	2.74	N
Lonyangapuo	West Pokot	1.33	Y	1.09	2.03	1.54	N
Machage	Migori	2.38	Y	1.49	2.29	2.52	N
Obure	Kisii	2.98	N	2.94	2.2	2.86	N
Orengo	Siaya	2.18	N	1.52	2.09	1.34	N
Average Aye		**2.74**		**2.50**	**2.44**	**2.62**	
Total Yes							2
No Votes							
Boy	Kwale	1.68	N	1.23	2.12	5.34	Y
Hargura	Marsabit	0.75	N	0.95	1.63	1.41	N
Hassan	Mombasa	2.43	N	3.26	1.41	3.15	Y
Kariuki	Laikipia	1.03	N	1.46	1.1	0.85	N
Kuti	Isiolo	0.37	N	1.02	0.75	0.97	Y
Lesuuda	Samburu	0.58	N	0.69	1.14	0.79	N
Madzayo	Kilifi	2.87	N	2.14	3.09	6.98	Y
Melly	Uasin Gishu	2.32	N	2.2	1.74	1.28	N
Moi	Baringo	1.44	N	2.27	2	1.23	N
Murkommen	Elgeyo Marakwet	0.96	N	1.68	0.99	0.9	N
Ndiema	Trans Nzoia	2.12	N	1.95	2.26	1.31	N
Okong'o	Nyamira	1.55	N	1.16	1.4	1.36	N
Sang	Nandi	1.95	N	1.69	1.73	1.12	N
Average No		**1.54**		**1.67**	**1.64**	**2.05**	
Total Yes							4
Average all counties		2.13		2.13	2.13	2.13	

Appendix H: The Final Formula Approved by the Senate in 2016, and eventually adopted (without debate in the National Assembly)

Table 1: Revenue Sharing Formula

No	Parameter	Current Formula	CRA Revised Recommendation
1	Population	45%	45%
2	Basic Equal Share	25%	26%
3	Poverty	20%	18%
4	Land Area	8%	8%
5	Fiscal Responsibility	2%	2%
6	Development Factor	-	1%
	TOTAL	100%	100%

Source CRA 2016

The "CRA Revised Recommendation" in the far right column was adopted by the Senate in 2016. The Development Factor was revised from what is in Appendix G to include only three variables, as can be seen below:

$$\boldsymbol{CA_i = 0.45PN_i + 0.26ES_i + 0.18PI_i + 0.08LA_i + 0.02FE_i + 0.01DF_i}$$

Where:

CA_i is revenue allocation of the $\boldsymbol{i}$ th County; $\boldsymbol{PN_i}$ is Population Factor; $\boldsymbol{ES_i}$ is Basic Equal Share Factor; $\boldsymbol{PI_i}$ is Poverty Gap; $\boldsymbol{LA_i}$ is Land Area Factor; $\boldsymbol{FE_i}$ is Fiscal Effort Factor; $\boldsymbol{PE_i}$ is and $\boldsymbol{DF_i}$ is Development Factor.

Where,

Population ($\boldsymbol{PN_i}$)

$$\boldsymbol{PN_i} = \frac{Population\ of\ i^{th} County}{Total\ Population}$$

Basic Equal Share ($\boldsymbol{ES_i}$)

$$\boldsymbol{ES_i} = \frac{Total\ Equal\ share}{47}$$

Poverty Index ($\boldsymbol{PI_i}$)

$$\boldsymbol{PI_i} = \frac{Poverty\ Resources\ of\ i^{th} County}{Total\ Poverty\ Resources}$$

Land Area ($\boldsymbol{LA_i}$)

$$\boldsymbol{LA_i} = \frac{Land\ Area\ (Sq.Kms.) of\ i^{th} County}{Total\ Land\ Area}$$

Fiscal Effort (FE_i)

$$\boldsymbol{FE_i} = \frac{f_i}{N_i}$$

Where, $\boldsymbol{f_i} = County's\ own\ revenue\ increment$

$\boldsymbol{N_i} = 2009\ population\ of\ the\ i^{th} County$

Development Factor (DF_i)

$$\boldsymbol{DF}_i = \frac{1}{3}\left(\frac{E_i * N_i}{\sum_i (E_i * N_i)} + \frac{W_i * N_i}{\sum_i (W_i * N_i)} + \left(\frac{URN_i}{\sum_i URN_i}\right)\right)$$

Where,

$\boldsymbol{E_i}$- Proportion of household with access to electricity of the i^{th} County

$\boldsymbol{W_i}$- Proportion of household without access to improved water of the i^{th} County

$\boldsymbol{URN_i}$- Un-paved road network of class D, E, F, G, H, J, K, M, N & P of the i^{th} County